CLAIMS

1. A management device that registers a communication device to a wireless network in which data communication is performed, the management device comprising:

a transmission unit operable to, in registering the communication device, transmit on a predetermined carrier a piece of initial data for authentication to an intermediate device, which relays the piece of initial data to the communication device;

an authentication unit operable to authenticate the communication device that has received the piece of initial data from the intermediate device, using data identical to the piece of initial data; and

a communication unit operable to perform data communication with the authenticated communication device via the wireless network, wherein:

an area where the predetermined carrier reaches is narrower in comparison with any carrier for the wireless network.

2. The management device according to Claim 1, wherein:

the predetermined carrier is infrared light.

3. The management device according to Claim 1, wherein:

the predetermined carrier is a close-range radiowave of a contactless IC card.

4. The management device according to Claim 1, wherein

the piece of initial data contains a device address of the management device.

5. A management device that registers a communication device to a wireless network in which data communication is performed, the management device comprising:

a readout unit operable to, in registering a communication device to the wireless network, read from a recording medium a piece of initial data for authentication;

an authentication unit operable to authenticate the communication device using the piece of initial data; and

a communication unit operable to perform data communication with the authenticated communication device via the wireless network.

6. A communication device comprising:

a receiving unit operable to, when being registered to a wireless network managed by a management device, receive on a predetermined carrier a piece of initial data for authentication from a intermediate device, which holds the piece of initial data received from the management device;

an authentication request unit operable to, based on the piece of initial data, request an authentication from the management device; and

a communication unit operable to, when the authentication is successful, perform data communication with other registered communication devices via the wireless network, wherein:

an area where the predetermined carrier reaches is narrower in comparison with any carrier for the wireless network.

7. The communication device according to Claim 6, wherein:

the piece of initial data contains one of a common key and a password for generating the common key, the common key being held by the management device; and

the authentication request unit request an authentication in a challenge-and-response method using the common key.

8. The communication device according to Claim 7, further comprising:

an encryption/decryption unit operable to encrypt data to be sent and decrypt data received by the communication unit, the encryption and decryption being performed based on a common key encryption method using the common key.

9. The communication device according to Claim 6, wherein:

the piece of initial data contains a device address of the management device; and

the authentication request unit requests an authentication from a device identified by the device address.

10. The communication device according to Claim 6, wherein:

the predetermined carrier is infrared light.

11. The communication device according to Claim 6, wherein:

the predetermined carrier is a close-range radiowave of a contactless IC card.

12. A communication device comprising:

a holding unit operable to hold a piece of initial data for authentication by a management device in a wireless network, the

management device obtaining data that is recorded in a recording medium and identical with the piece of initial data;

an authentication request unit operable to, based on the held data, request an authentication from the management device; and

a communication unit operable to, when the authentication is successful, perform data communication via the wireless network with other registered communication devices.

13. An intermediate device comprising:

a receiving unit operable to, in registration of a communication device to a wireless network, receive on a predetermined carrier a piece of initial data from a management device;

a holding unit operable to hold the piece of initial data; and

a sending unit operable to send the piece of initial data to the communication device, using the predetermined carrier, wherein:

an area where the predetermined carrier reaches is narrower in comparison with any carrier for the wireless network.

14. The intermediate device according to Claim 14, wherein:

different carriers are used in the receiving and the sending of the piece of initial data.

15. The intermediate device according to Claim 14, further comprising:

an erase unit operable to erase the piece of initial data

held in the holding unit.

16. The intermediate device according to Claim 16, wherein:

the erase of the piece of initial data is performed when the piece of sent initial data is received by the communication device.

17. The intermediate device according to Claim 17, wherein:

the erase unit confirms, by receiving a notification from the communication device, that the piece of initial data is received by the communication device.

18. The intermediate device according to Claim 16, wherein:

the holding unit is a Ferroelectric Random Access Memory; and

the erasing of the piece of initial data is performed by destructive read of the piece of initial data.

19. The intermediate device according to Claim 14, the device being a handheld type and movable from a first location to a second location, wherein:

the receiving unit receives the piece of initial data at the first location, from which the predetermined carrier reaches the management device; and

the sending unit sends the piece of initial data at the second location, from which the predetermined carrier reaches the communication device.

20. An integrated circuit for management device of a wireless

network in which data communication is performed among communication devices, the integrated circuit comprising:

a transmission unit operable to, in registering the communication device, transmit on a predetermined carrier a piece of initial data for authentication to an intermediate device, which relays the piece of initial data to the communication device;

an authentication unit operable to authenticate the communication device that has received the piece of initial data from the intermediate device, using data identical to the piece of initial data; and

a communication unit operable to perform data communication with the authenticated communication device via the wireless network, wherein:

an area where the predetermined carrier reaches is narrower in comparison with any carrier for the wireless network.

21. A method of registering a communication device to a wireless network in which data communication is performed among devices authenticated by a management device, the method comprising:

transmitting, in registering the communication device, on a predetermined carrier a piece of initial data for authentication to an intermediate device, which relays the piece of initial data to the communication device;

authenticating the communication device that has received the piece of initial data from the intermediate device, using data identical to the piece of initial data; and

performing data communication with the authenticated communication device via the wireless network, wherein:

an area where the predetermined carrier reaches is narrower

in comparison with any carrier for the wireless network.

22. A program of controlling registration of a communication device to a wireless network in which data communication is performed among devices authenticated by a management device, the program comprising:

transmitting, in registering the communication device, on a predetermined carrier a piece of initial data for authentication to an intermediate device, which relays the piece of initial data to the communication device;

authenticating the communication device that has received the piece of initial data from the intermediate device, using data identical to the piece of initial data; and

performing data communication with the authenticated communication device via the wireless network, wherein:

an area where the predetermined carrier reaches is narrower in comparison with any carrier for the wireless network.